

No.

200000343



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Dr. Peter Franck

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE SEED. 16 U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT, COMMON

'Patriot'

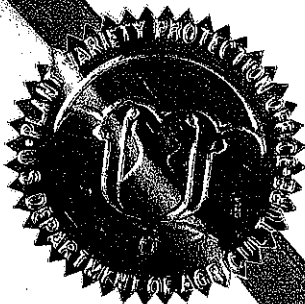
In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelfth day of September, in the year two thousand one.

Attest:

P. M. Zimbardo

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

W. H. Mason
Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

1. NAME OF OWNER DR. PETER FRANCK		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME CM 94090		3. VARIETY NAME PATRIOT	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) PFLANZENZUCHT OBERLIMPURG OBERLIMPURG D 74523 SCHAEBISCH HALL GERMANY		5. TELEPHONE (include area code) +49-791-931180		FOR OFFICIAL USE ONLY 200000343	
6. FAX (include area code) +49-791-47333		9. DATE OF INCORPORATION 9-18-2000		FILING DATE 9-18-2000	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)		8. IF INCORPORATED, GIVE STATE OF INCORPORATION		FILING AND EXAMINATION FEES: \$ 2450.00 DATE 9/18/00 CERTIFICATION FEE \$ 320.00 DATE 8/28/01	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) SEED-LINK INC. P.O. BOX 217 LINDSAY, ONTARIO K9V 5Z4 CANADA					
11. TELEPHONE (Include area code) 705-324-0544		12. FAX (Include area code) 705-324-2550		13. E-MAIL sloffice@seed-link.ca	
14. CROP KIND (Common Name) WINTER WHEAT					
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
			21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. <input type="text" value="1"/> FOUNDATION <input type="text" value="1"/> REGISTERED <input type="text" value="1"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? YES NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER P. M. Franck			SIGNATURE OF OWNER		
NAME (Please print or type) DR. PETER FRANCK			NAME (Please print or type)		
CAPACITY OR TITLE BREEDER		DATE Sept. 6/00		CAPACITY OR TITLE	
				DATE	

01: 'S

XONBRI-028:01 27-00 10 0000-010-00

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INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
20. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
21. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

2. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

FIRST SALE/TRANSFER TO USA : 08 OCT 1999 (Export from CND to Illinois)
FIRST SALE IN CANADA : OCT 1999

3. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

CANADA : Plant Breeders Rights - granted August 17, 2000; Certificate # 0802
- file # 98-1484; file date: Sept 8, 1998

(see annex)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Annie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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STD-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

Government of Canada
Canadian Food Inspection Agency
Gouvernement du Canada
Agence canadienne d'inspection des aliments

PLANT BREEDER'S RIGHTS CERTIFICATE

This is to certify that

Pflanzenzucht Oberlinpurg

has been granted Plant Breeder's Rights under Section 27(3)

of the Plant Breeders' Rights Act for the

wheat variety designated '*Patriot*'.

The right is valid for a period of up to eighteen (18) years.

CERTIFICATE NO.: 0802

DATE: August 17, 2000

Valerie Stinson
Commissioner
Plant Breeders' Rights

Canada

CFIA / ACIA 0021 (07/04)

" 200000343 "

Dr. Peter Franck
PZO Pflanzenzucht Oberlimpurg
D 74523 Schwaebisch Hall --- Germany

PVP Application Winter Wheat „PATRIOT“

18. Exhibit "A"

Origin and Breeding History of the Variety

1. Description of Genealogy

Pedigree : (18.178 x Aurora) x (F 1684 x Pterzia)

2. Crossing Date : 1984

3. Details of subsequent stages of selection and multiplication:

Single plant selection in F2 / F3 and F4;

Bulk F 6 : First yield a bulk of the progenies of 600 F8 random single plant selection

4. Methodology: Pedigree Selection

5. Selection criteria :

- Winter hardiness
- Milling quality
- High yields in combination with
- disease resistance resp. tolerance:
i.e.:
 - Fusarium head blight – low susceptibility
 - Brown rust resistance
 - Powdery mildew resistance

6. Uniformity and stability: This variety is uniform and stable

Exhibit A: Origin and Breeding History of the Variety**Pedigree:**

- 18.178:** cross of 2 experimental lines which never become named
lines 438/07 x line 444/01
- 438/07 (09.222: own german line never become named x Bezostaja)
- 444/01 (Adam x Olymp) x Mironowskaja 326)
- F 1684:** 78/49/2 (own german line never become named) x Karat
- Pterzia:** Registered line in Yugoslavia

Evidence of uniformity and stability

A variant that is similar to Patriot but taller occurs at a frequency of up to 0.05% (5 per 10.000) also a variant that is awned with a frequency of up 0.05% (5 per 10.000). Patriot is a stable and uniform variety in agronomic appearance (Tab. 5) and performance across several generations (F8 to F16) and growing conditions.

Exhibit B: Statement of Distinctness

Patriot is most similar to the variety Freedom. However (Tab.1) the plant height from Patriot is 2 cm shorter than Freedom. The length of flag leaf from Patriot is 1,7 cm shorter than Freedom (Tab.2). Also coleoptile from Patriot is without anthocyan colouration (Tab. 6), while Freedom's coleoptile has a weak intensity of anthocyan colouration. The kernel type of Patriot is hard red, while the kernel type of Freedom is soft red. As the comparison (Tab. 3) shows spike length from Patriot is 1,2 cm longer. And Patriot is one day earlier in heading than Freedom (Tab. 6).

The above comparison (Tab. 1, 2 and 3) along with the complete objective description (Exhibit C) show Patriot to be a novel variety of hard red spring wheat.

patriot.doc

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Tab. 1 Plant height (cm)

variety	character	year	locat.	measurements (cm)																				mean	total mean	variance
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
Patriot	plant	1996	loc 1	81	82	83	82	85	81	84	85	86	84	84	84	87	86	86	86	86	85	85	83	84	84,25	3,145
	height		loc 2	83	81	83	87	86	81	84	83	82	84	81	88	87	91	86	84	88	89	90	86	85,20	9,326	
	cm	1997	loc 1	80	81	86	83	84	86	83	81	88	85	87	83	85	84	89	86	83	81	85	83	84,15	5,924	
			loc 2	86	85	89	84	86	82	82	85	84	88	86	87	86	87	84	85	86	87	83	83	85,25	3,671	
Freedom	plant	1996	loc 1	90	90	90	78	81	84	88	88	82	88	87	86	83	85	85	85	89	85	82	87	85,65	10,871	
	height		loc 2	89	89	84	89	88	85	87	84	86	87	86	90	86	83	88	91	91	91	81	82	86,85	9,082	
	cm	1997	loc 1	84	84	84	88	85	82	86	89	89	90	82	80	83	87	86	81	87	86	85	82	85,00	8,000	
			loc 2	90	91	84	90	87	89	87	85	88	89	84	89	88	84	86	92	91	93	85	83	87,75	8,724	

Tab. 2 Length of flag leaf (mm)

variety	character	year	locat.	measurements (mm)																			mean	total mean	variance
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Patriot	flag leaf	1996	loc 1	164	146	129	150	130	162	160	169	143	139	169	152	144	133	166	163	165	150	170	161	153,25	183,039
	length		loc 2	144	173	169	157	172	176	168	171	136	153	159	154	164	140	173	176	154	146	176	159	161,00	161,664
	mm	1997	loc 1	134	164	156	171	148	134	169	152	148	139	160	167	168	150	172	164	164	151	136	152	154,95	156,787
			loc 2	154	173	174	157	146	176	162	149	179	174	164	172	176	173	144	157	159	169	159	154	163,55	118,997
Freedom	flag leaf	1996	loc 1	196	183	201	167	178	176	158	151	153	141	201	136	180	191	176	161	196	176	154	186	173,05	387,524
	length		loc 2	159	161	147	201	146	180	191	176	171	196	181	154	192	196	189	201	172	178	185	166	177,10	299,042
	mm	1997	loc 1	160	151	154	146	196	136	180	187	176	159	195	176	154	189	194	183	197	180	167	178	172,90	338,305
			loc 2	166	160	162	150	201	146	187	191	185	169	196	176	166	194	196	191	201	175	178	176	178,30	273,800

Tab. 3: Spike length (cm)

variety	character	year	local.	measurements (mm)																				mean	total mean	variance	
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
Patriot		1996	loc 1	8,2	8,7	8,8	8,6	8,9	9,0	8,9	8,6	8,2	8,0	7,8	7,9	8,9	9,0	9,0	9,2	8,7	8,6	8,6	8,9	8,63			0,161
			loc 2	8,8	8,9	9,0	8,9	8,6	8,5	8,5	8,8	8,1	8,6	8,9	8,5	8,8	9,2	8,8	8,5	8,1	8,9	8,0	8,8	8,66			0,100
		1997	loc 1	8,3	8,9	8,2	8,5	8,6	8,5	8,2	8,0	8,5	8,6	8,6	8,6	8,3	8,2	8,2	8,5	7,8	8,0	7,6	7,5	8,28			0,130
			loc 2	8,1	8,4	8,0	8,3	8,6	8,3	8,0	7,8	8,3	8,4	8,5	8,4	8,1	8,0	8,0	8,3	7,6	8,4	7,8	8,7	8,20	8,44		0,082
Freedom		1996	loc 1	7,0	7,5	7,8	7,4	7,7	7,3	7,6	7,4	7,0	6,8	8,0	6,7	7,7	7,2	7,8	7,8	7,5	7,4	7,4	7,7	7,44			0,125
			loc 2	7,6	7,7	7,7	7,7	7,4	7,3	7,3	7,6	6,9	7,4	7,2	7,3	7,5	7,7	7,6	7,3	6,9	6,7	8,0	6,6	7,37			0,134
		1997	loc 1	7,1	7,4	7,0	7,3	7,4	7,3	7,0	6,6	7,3	7,4	7,4	7,4	7,7	7,1	7,0	7,0	7,3	6,6	6,4	7,7	6,3	7,12		0,150
			loc 2	6,9	7,2	6,8	7,1	6,9	7,1	6,8	6,4	7,1	7,2	6,8	7,2	6,9	6,8	6,8	7,1	6,4	6,2	7,5	6,1	6,87	7,20		0,129

Tab. 4: Significance of examined characters

	DF	MS	plant height		length of flag leaf		spike length	
			F-value	sign.	F-value	sign.	F-value	sign.
Varieties (Var)	1	0,0050	20,90	n.s.	18823,84	**	5040,97	**
Locations (Loc)	1	4,5000	18,37	n.s.	2662,56	**	27,94	n.s.
Var x Loc	1	0,3613	1,84	n.s.	190,44	*	14,88	n.s.
Years (Yrs)	1	5,1200	0,02	n.s.	112,36	n.s.	542,22	*
Var x Yrs	1	0,4513	0,05	n.s.	40,96	n.s.	0,00	n.s.
Loc x Yrs	1	0,0112	1,47	n.s.	19,36	n.s.	17,16	n.s.
Var x Loc x Yrs	1	0,2450			0,0313		0,0006	

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Table 5a: Yield and disease data comparing Patriot (CM94090) to check varieties
(C&M Seeds, Plant Breeders' Rights Trial, Palmerston, Ontario 1998)

	Yield kg/ha	% of trial	TSTW kg/HL	Protein %	HDT days	HGT cm	MLD 0-9	RUST 0-9
Patriot	5838	107	77,6	13,2	149	186	3,0	2,3
Fundulea	5121	94	78,6	13,7	153	188	5,0	1,0
Hanover	5344	98	73,4	13,1	153	188	5,5	1,5

Table 5b: Yield and disease data comparing Patriot (CM94090) to check varieties
(C&M Seeds, Plant Breeders' Rights Trial, Palmerston, Ontario 1999)

	Yield kg/ha	% of trial	TSTW kg/HL	Protein %	HDT days	HGT cm	MLD 0-9	RUST 0-9
Patriot	4521	106	70,2	14,4	157	80	2,0	2,5
Fundulea	4557	107	68,2	13,4	163	78	2,8	1,5
Hanover	3724	87	64,0	14,7	160	70	5,5	1,5

Table 6: Heading and anthocyan colouration coleoptile comparing Patriot (CM94090)
to check variety Freedom (C&M Seeds, Ontario 1999 and 2000)

	anthocyan color. coleoptile 1999*	anthocyan color. coleoptile 2000*	heading 1999	heading 2000	kernel hardiness
Patriot	1,1	1,0	153	168	hard
Freedom	2,0	1,9	154	169	soft

*20 measurements

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved - GMB No. 0581-02

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid GMB control number. The valid GMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

EXHIBIT C
(Wheat)

**OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*Triticum* spp.)**

NAME OF APPLICANT(S) <u>Dr. Peter Franck</u>	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or RD No., City, State, and Zip Code) <u>Pflanzenzücht Oberlinpurg</u> <u>Oberlinpurg 2</u> <u>D 74523 Schwäbisch Hall / Germany</u>	PVPO NUMBER <u>200000343</u>
	VARIETY NAME <u>PATRIOT</u>
	TEMPORARY OR EXPERIMENTAL DESIGNATION <u>(CM 94090)</u>

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. 0 9 9 or 0 9) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:
Please answer all questions for your variety; lack of response may delay progress of your application.

1. KIND:1

1=Common

2=Durum

3=Club

4=Other (SPECIFY): _____

2. VERNALIZATION:2

1=Spring

2=Winter

3=Other (SPECIFY): _____

3. COLEOPTILE ANTHOCYANIN:1

1=Absent

2=Present

4. JUVENILE PLANT GROWTH:2

1=Prostrate

2=Semi-erect

3=Erect

5. PLANT COLOR (boot stage):2

1 = Yellow-Green

2 = Green

3 = Blue-Green

6. FLAG LEAF (boot stage):2

1 = Erect

2 = Recurved

2

1 = Not Twisted

2 = Twisted

7. EAR EMERGENCE:0 1Number of Days Earlier Than Freedom

Number of Days Later Than _____

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8. ANTHOR COLOR:

☒ 1

1 = Yellow

2 = Purple

9. PLANT HEIGHT (from soil to top of head, excluding awns):

☐ ☐

cm Taller Than _____

☐ 0 ☐ 1cm Shorter Than FREEDOM

* Relative to a PVPO-Approved Commercial Variety Grown in the Same Trial

10. STEM:

A. ANTHOCYANIN

☒ 1

1 = Absent

2 = Present

B. WAXY BLOOM

☒ 2

1 = Absent

2 = Present

C. HAIRINESS (last internode of rachis)

☒ 2

1 = Absent

2 = Present

D. INTERNODE (SPECIFY NUMBER)

☒ 1

1 = Hollow

2 = Semi-solid

3 = Solid

E. PEDUNCLE

☐

1 = Absent

2 = Present

☐

cm Length

11. HEAD (at Maturity):

A. DENSITY

☒ 2

1 = Lax

3 = Dense

2 = Middense

B. SHAPE

☒ 2

1 = Tapering

2 = Strap

3 = Clavate

4 = Other (SPECIFY): _____

C. CURVATURE

☒ 2

1 = Erect

2 = Inclined

3 = Recurved

D. AWNEDNESS

☒ 2

1 = Awnless

2 = Apically Awnletted

3 = Awnletted

4 = Awned

12. GLUMES (at Maturity):

A. COLOR

☒ 1

1 = White

2 = Tan

3 = Other (SPECIFY): _____

C. BEAK

☒ 2

1 = Obtuse

2 = Acute

3 = Acuminate

B. SHOULDER

☒ 4

1 = Wanting

2 = Oblique

3 = Rounded

4 = Square

5 = Elevated

6 = Apiculate

D. LENGTH

☒ 3

1 = Short

2 = Medium

(ca. 7mm)

(ca. 8mm)

3 = Long (ca. 9mm)

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12. GLUMES (at Maturity) Continued:

E. WIDTH

☒ 1 = Narrow (ca. 3mm) 2 = Medium (ca. 3.5mm)
3 = Wide (ca. 4mm)

13. SEED:

A. SHAPE

☒ 1 = Ovate 2 = Oval 3 = Elliptical

C. BRUSH

☒ 1 = Short 2 = Medium 3 = Long

☒ 1 = Not Collared 2 = Collared

B. CHEEK

☒ 1 = Rounded 2 = Angular

D. CREASE

☒ 1 = Width 60% or less of Kernel
2 = Width 80% or less of Kernel
3 = Width Nearly as Wide as Kernel

☒ 1 = Depth 20% or less of Kernel
2 = Depth 35% or less of Kernel
3 = Depth 50% or less of Kernel

E. Color

☒ 1 = White 2 = Amber 3 = Red
4 = OTHER (Specify)

G. PHENOL REACTION (see instructions):

☒ 1 = Ivory 2 = Fawn
3 = Light Brown 4 = Dark Brown
5 = Black

F. TEXTURE

☒ 1 = Hard 2 = Soft

14. DISEASE: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|--|---|
| <input checked="" type="checkbox"/> Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) | <input checked="" type="checkbox"/> Leaf Rust (<i>Puccinia recondita</i> f. sp. <i>tritici</i>) |
| <input checked="" type="checkbox"/> Stripe Rust (<i>Puccinia striiformis</i>) | <input checked="" type="checkbox"/> Loose Smut (<i>Ustilago tritici</i>) |
| <input checked="" type="checkbox"/> Tan Spot (<i>Pyrenophora tritici-repentis</i>) | <input checked="" type="checkbox"/> Flag Smut (<i>Urocystis agropyri</i>) |
| <input checked="" type="checkbox"/> Halo Spot (<i>Selenophoma donacis</i>) | <input checked="" type="checkbox"/> Common Bunt (<i>Tilletia tritici</i> or <i>T. laevis</i>) |
| <input checked="" type="checkbox"/> <i>Septoria nodorum</i> (Glume Blotch) | <input checked="" type="checkbox"/> Dwarf Bunt (<i>Tilletia controversa</i>) |
| <input checked="" type="checkbox"/> <i>Septoria avenae</i> (Speckled Leaf Disease) | <input checked="" type="checkbox"/> Karnal Bunt (<i>Tilletia indica</i>) |
| <input checked="" type="checkbox"/> <i>Septoria tritici</i> (Speckled Leaf Blotch) | <input type="checkbox"/> Powdery Mildew (<i>Erysiphe graminis</i> f. sp. <i>tritici</i>) |
| <input checked="" type="checkbox"/> Scab (<i>Fusarium</i> spp.) | <input checked="" type="checkbox"/> "Snow Molds" |

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14. Disease (Continued) (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE INDICATE THE SPECIFIC RACE OR STRAIN TESTED

- | | |
|--|--|
| <input checked="" type="checkbox"/> "Black Point" (Kernel Smudge) | <input checked="" type="checkbox"/> Common Root Rot (<i>Fusarium</i> , <i>Cochliobolus</i> and <i>Bipolaris</i> spp.) |
| <input checked="" type="checkbox"/> Barley Yellow Dwarf Virus (BYDV) | <input checked="" type="checkbox"/> Rhizoctonia Root Rot (<i>Rhizoctonia solani</i>) |
| <input checked="" type="checkbox"/> Soilborne Mosaic Virus (SBMV) | <input checked="" type="checkbox"/> Black Chaff (<i>Xanthomonas campestris</i> pv. <i>translucens</i>) |
| <input checked="" type="checkbox"/> Wheat Yellow (Spindle Streak) Mosaic Virus | <input checked="" type="checkbox"/> Bacterial Leaf Blight (<i>Pseudomonas syringae</i> pv. <i>syringae</i>) |
| <input checked="" type="checkbox"/> Wheat Streak Mosaic Virus (WSMV) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |
| <input type="checkbox"/> Other (SPECIFY) | <input type="checkbox"/> Other (SPECIFY) |

15. INSECT: (0=Not Tested; 1=Susceptible; 2=Resistant; 3=Intermediate; 4=Tolerant)

PLEASE SPECIFY BIOTYPE (where needed)

- | | |
|---|--|
| <input checked="" type="checkbox"/> Hessian Fly (<i>Mayetiola destructor</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Stem Sawfly (<i>Cephus</i> spp.) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Cereal Leaf Beetle (<i>Oulema melanopa</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Russian Aphid (<i>Urolepis noxia</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Greenbug (<i>Schizaphis graminum</i>) | <input type="checkbox"/> Other (SPECIFY) |
| <input checked="" type="checkbox"/> Aphids | <input type="checkbox"/> Other (SPECIFY) |

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS

Exhibit D: Milling and Baking Data**Patriot (CM94090)**

Table 7: Quality data for "PATRIOT" hard red spring wheat (C&M Seeds, Ontario)

kernel characteristics					flour characteristics farinograph				
Year	Variety	tstw Kg/hl	protein %	fall#	absn	pk tm	stabil	mti	loaf volume
2000	Fundulae	82,5	12,1	262	56,4	3,8	3,7	56	715
1999	Fundulae	82,6	11,8	307	57,3	4,2	3,7	54	755
2000	Karat	83,5	12,9	304	59,5	5,3	6,8	31	772
1999	Karat	83,4	13,0	321	60,5	6,7	6,2	37	882
2000	Patriot	84,0	11,9	283	57,4	5,5	8,0	40	862
1999	Patriot	84,0	12,0	260	57,4	4,7	9,7	20	810

Patriot has good quality results in test weight, is medium in protein and falling number and its loaf volume is high.

Disease – Fusarium Head Blight

Crop: Winter Wheat

Pest: Fusarium head blight, Fusarium graminearum Schwabe

Name und agency:

Schaafsma A. W. and Tamburic-Ilinic L

Ridgetown Collège, University of Guelph, Ridgetown, Ontario NOP 2CO

Tab.8: Results (35 winter wheats tested) – Fusarium inoculated trial (no Folicur),
Ridgetown, 1999-2000

Nr.	Cultivar	Severity	Incidence	FHBI (%)	%	FHBI Rank	DON (ppm)	%	DON Rank
7	Freedom	51,67	80	41,33	90,3	11	2,1	22,29	1
14	Patriot	58,00	83,33	48,48	105,92	23	4,6	48,83	9
24	AC Delta	59,33	90	54,03	118,05	28	34,7	368,4	35

Patriot had in inoculated trials with Fusarium head blight very low DON.

REPRODUCE LOCALLY. Include form number and edition date on all reproductions.

FORM APPROVED - OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
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Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) DR. PETER FRANCK	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER (CM 94 090)	3. VARIETY NAME PATRIOT
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) PFLANZENZUCHT OBERLIMPURG OBERLIMPURG D 74523 SCHWABEBISCH HALL/GERMANY	5. TELEPHONE (include area code) ++ 49-791-931180	6. FAX (include area code) ++ 49-791-47333
7. PVPO NUMBER		200000343

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☐ YES ☒ NO
If no, give name of country GERMANY10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☒ NO If no, give name of country GERMANY

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

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